



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,166	03/17/2005	Hideo Morita	267494US6PCT	2641

22850 7590 07/22/2008
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

ALLISON, ANDRAE S

ART UNIT	PAPER NUMBER
----------	--------------

2624

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

07/22/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/528,166	Applicant(s) MORITA, HIDEO	
	Examiner ANDRAE S. ALLISON	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on March 17, 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/11/2007; 07/12/2006; 03/17/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "(pixel data Di(0) and Di(+2F) comprising field screen Pi(O) and Pi(+2F), hereinafter, be described by reference numerals of the field screen to which belonging the pixel data in consideration of correspondence to drawings)" and it is unclear whether the above recited limitation is intended to further limit the claim since the limitation is enclosed in brackets and also referred to drawing.

Claims 1 and 5 recited the limitation "a still image" in quotes in line 13-14 and 8-9 respective, however, it is unclear whether the claim is intended to further limit the claims.

Claims 2-4 and 6 are being rejected as incorporating the deficiencies of the claim upon which each respective claim depends.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2624

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Heimburger (US Patent No.: 5,995,154).

As to independent claim 5, Heimburger discloses an image processing method of converting an interlaced image data to a noninterlaced image data (method for converting interlaced format image data to progressive format image data - column 1, lines 5-10), comprising the steps of: motion-detecting by comparing pixel data ($P_i(0)$ and $P_i(+2F)$) of an interlaced image pixel-by-pixel between frames to perform a motion detection (see column 8, lines 10-16 – where motion estimation is performed on a frame stored in memory and a current frame); generating a history value (H_k) showing the number of times that determination is continuously made to be "a still image" based on a result of the motion detection (see column 8, lines 65-67 and column 9, lines 1-67); and interpolating by mixing pixel data (P_m) generated by interpolation in a field and pixel data (P_s) generated by interpolation between a plurality of fields based on pixel data of the interlaced image (see column 21, lines 63-67, column 22, lines 1-67 – where interpolations is done between multiple fields) at a mixture ratio (R_{mix}) (see column 3, lines 1-5) in accordance with the motion detection result ($Dif(0)$) and the history value (H_k), wherein the larger the history value (H_k) is, the larger amount of pixel data (P_s) generated by interpolation between fields mixes (see column 21, lines 63-67).

As to independent claim 1, this claim differs from claim 5 only in that claim 1 is apparatus whereas, claim 5 is method and the limitations a motion detection portion, a history value generation portions and a pixel data interpolation portion are additively recited Heimburger clearly discloses an apparatus (see Fig 1) comprising: limitations a motion detection portion (5 - see Fig 1), a history value generation portions (5 - see Fig 1) and a pixel data interpolation portion (4, see Fig 1).

As to claim 3, Heimburger teaches the image processing apparatus, wherein said history value generation portions (52, 53) generates a history value ($H_k(+2F)$) for interpolation of an adjacent pixel in a field delayed by one field from a field where a pixel data to be generated by the interpolation and updates with respect to each interpolation (see column 23, lines 37-42).

As to claim 4, Heimburger teaches the image processing apparatus, wherein said history value generation portions (52, 53) generates a history value ($H_k(+F)$) for an interpolation of an adjacent pixel in a field differing from a field where a pixel data to be generated by the interpolation, generates a history value ($H_k(+2F)$) for an interpolation of an adjacent pixel in the same field where a pixel data to be generated by the interpolation, and updates respectively with respect to each interpolation column 21, lines 63-67, column 22, lines 1-67.

.

Allowable Subject Matter

5. Claim 2 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made part of the record and not relied upon is considered pertinent to applicant's disclosure.

Ohta et al (US Patent No.: 7362385) is cited to an image conversion device image conversion method and image projection device.

Mishima (US Patent No.: 7180548) is cited to a d method of generating frame interpolation image.

Auld (US Patent No.: 6556193) is cited to a de-interlacing video images using patch-based processing.

Orimo (US Patent No.: 6522339) is cited to a resolution conversion method and device.

Kato et al (US Patent No.: 5982444) is cited to an encoding method and apparatus for encoding edited picture signals

Muraji et al (US Patent No.: 5886745) is cited to a progressive scanning conversion apparatus.

Muraji et al (US Patent No.: 5796437) is cited to a progressive scanning conversion apparatus.

Jung et al (US Pub No.: 2004/0070686) is cited to a deinterlacing apparatus and method.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Meta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison
July 15, 2008

/Andrew W. Johns/
Primary Examiner, Art Unit 2624